Robot Learning and Teleoperation UFME7R-15-M

MLX Submission Walkthrough (24_25)

How do I use this file?

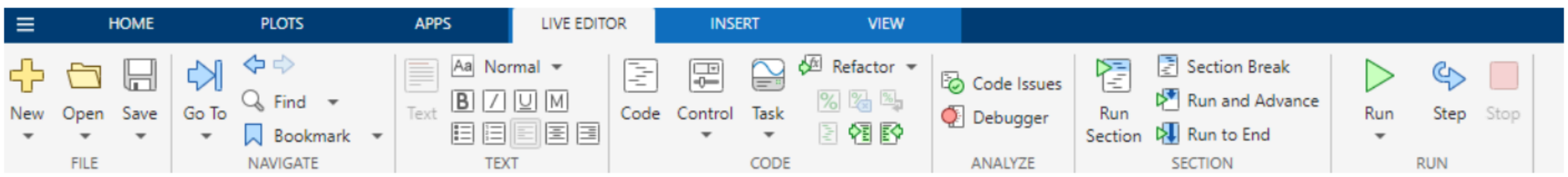
This MLX file consists of two parts:

- A guide on how to use an MLX file; the coursework has an associated MLX template, and this should also be the format used for your submission
- Instructions on how and what to submit should be how you put together your main submission for this coursework.

If you have been attending the tutorial sessions, you will be familiar with using an MLX and can likely skip the first section, but do be sure to check out the submission guidelines before you submit.

Using an MLX File

MATLAB's MLX format allows you to write formatted documents alongside working MATLAB code. Use the **Live Editor** tab (above) to control how you input and run the MLX.



To format text, use the formatting options under the **Text** tab.

Under the **Code** tab, you can find the Code button. Clicking this will convert the line you are working on to MATLAB block, like so:

```
% Now we are writing MATLAB code


```

This document has **Section Breaks** (like so):

that isolate each Task and Part from each other. This separates code blocks so that each can run independently.

```
% This is another code block; running this will not cause the block above
% to run, and vice-versa
```

To run the code for each sections independently, use the **Run Section** button:

机器人学习和远程操作 UFME7R-15-M

MLX 提交演练 (24_25)

我如何使用这个文件?

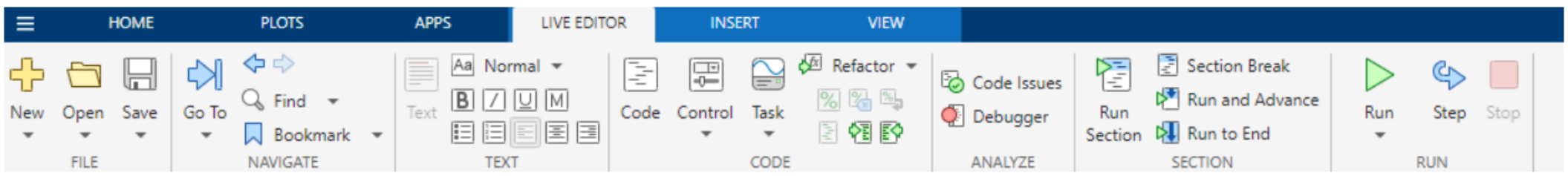
该 MLX 文件由两部分组成：

• 有关如何使用 MLX 文件的指南；课程作业具有相关的 MLX 模板，这也应该是您提交时使用的格式 • 有关如何提交和提交什么的说明应该是您如何整理本课程作业的主要提交内容。

如果您参加过教程课程，您将熟悉使用 MLX 并可能跳过第一部分，但请务必在提交之前查看提交指南。

使用 MLX 文件

MATLAB 的 MLX 格式允许您在编写 MATLAB 代码的同时编写格式化文档。使用上方的“实时编辑器”选项卡可以控制 MLX 的输入和运行方式。



要格式化文本，请使用“文本”选项卡下的格式化选项。

在“代码”选项卡下，您可以找到“代码”按钮。单击此按钮会将您正在处理的行转换为 MATLAB 块，如下所示：

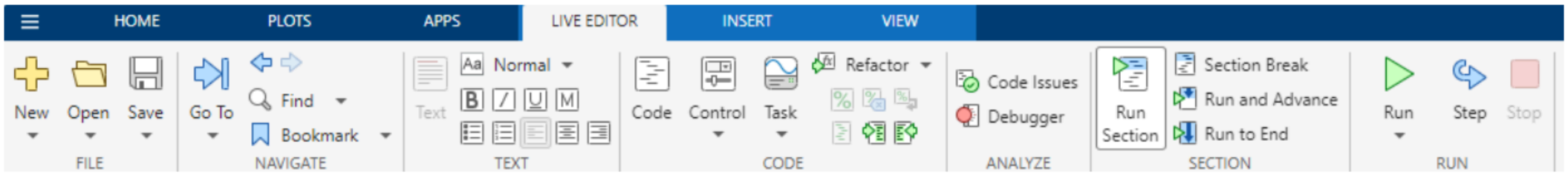
```
%现在我们正在编写 MATLAB 代码
```

本文档有分节符（如下所示）：

将每个任务和部分彼此隔离。这样可以分离代码块，以便每个代码块可以独立运行。

```
% 这是另一个代码块；运行此代码块不会导致上面的代码块运行，反之亦然
```

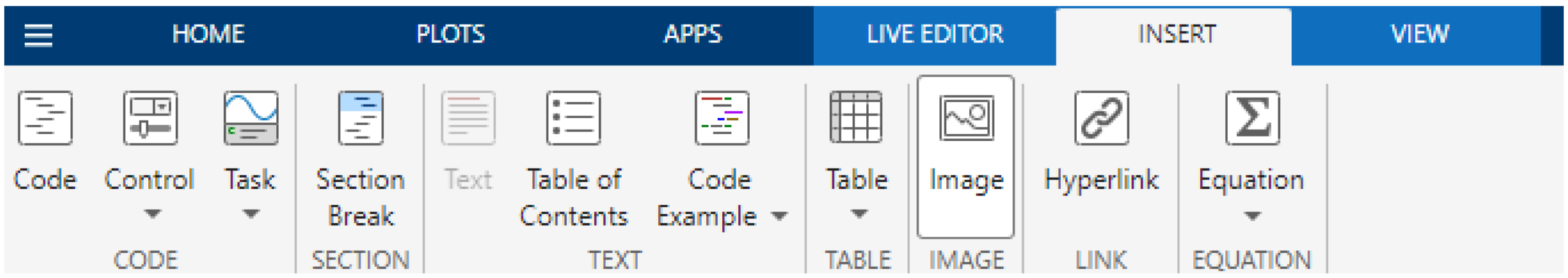
要独立运行每个部分的代码，请使用“运行部分”按钮：



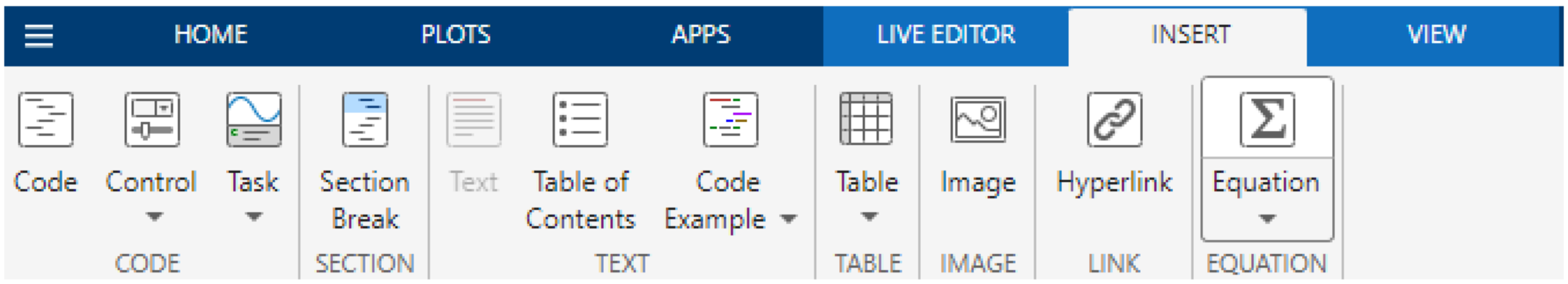
The regular **Run** button will run the whole document (all sections). Sometimes, this is desired (such as checking a completed document before submission), but most of the time, we want to run sections independently.

By default, output is generated in a seperate area to the right of the document. Often, this makes it difficult to read, so it is prefered to change it to **Output Inline.** These options can be found beside the scroll bar, to the right of this window:

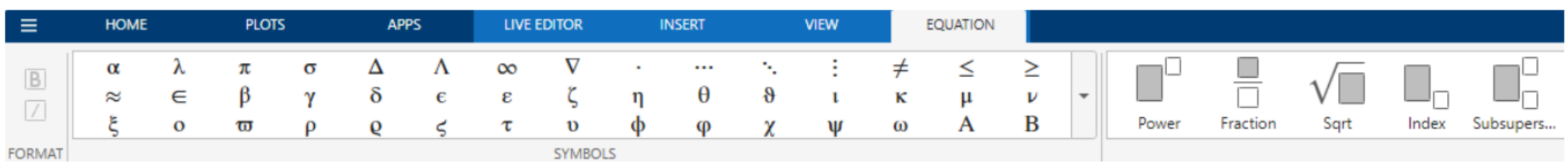
Switching to the **Insert** tab will allow you to add images, either from a Simulink window or perhaps from papers to support your analysis.

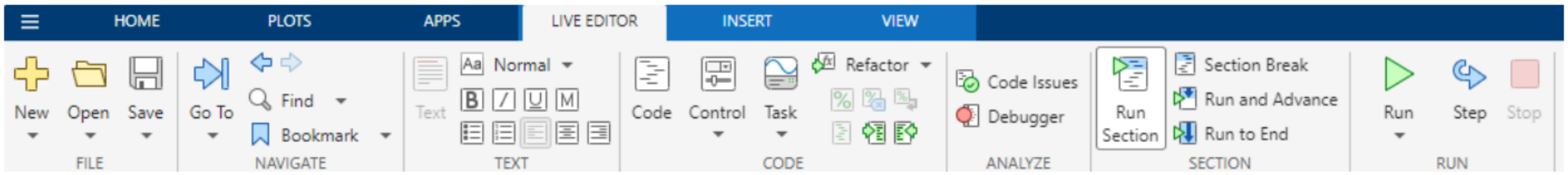


Also available is capacity to add **Tables**, perhaps to display key results, or **Equations**, which you will find especially useful for Task 1.



Clicking this buttom opens the **Equation** tab. The equation editor is similar to Microsoft Word, with a list of symbols and operators to add found on the top bar:

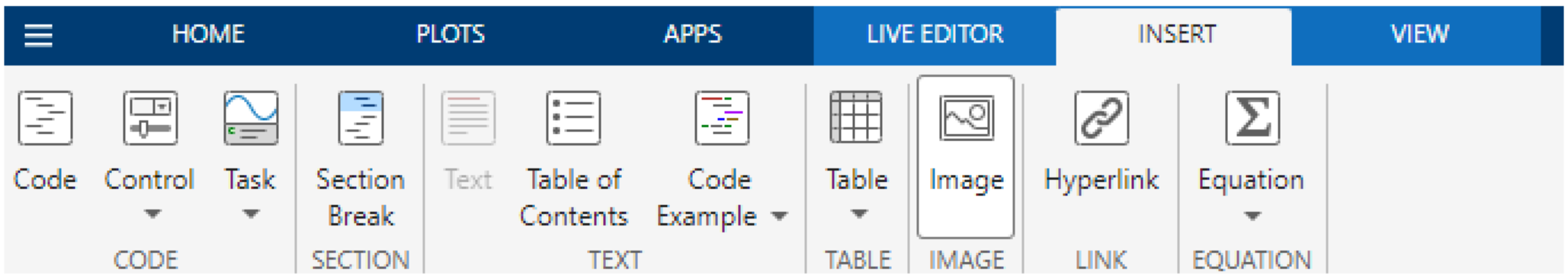




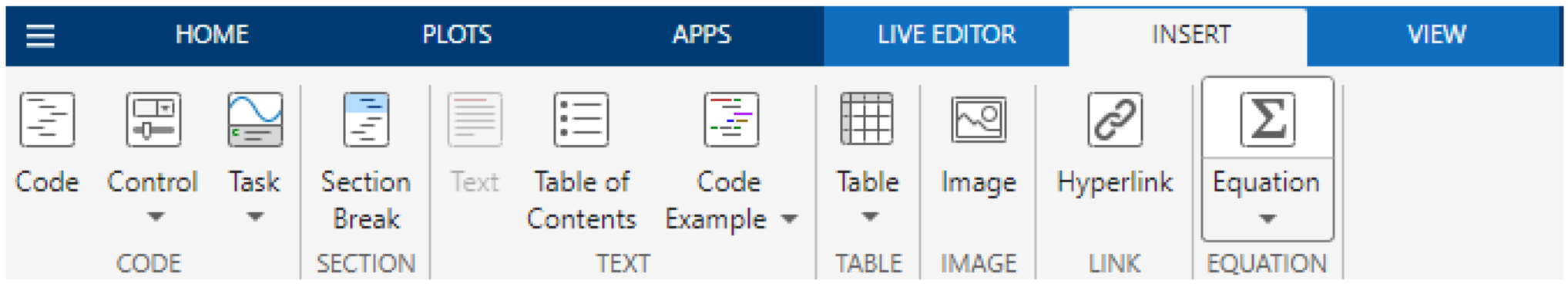
常规的“运行”按钮将运行整个文档（所有章节）。有时，这是我们需要的（例如，在提交前检查已完成的文档），但大多数情况下，我们希望单独运行各个章节。

默认情况下，输出会在文档右侧的单独区域中生成。这通常会影响阅读体验，因此建议将其更改为“内联输出”。以下选项位于此窗口右侧滚动条的旁边：

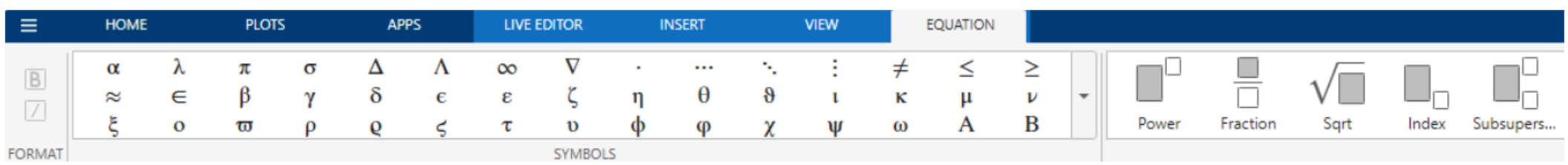
切换到“插入”选项卡将允许您添加图像（来自 Simulink 窗口或来自论文）以支持您的分析。



还可以添加表格，可能是为了显示关键结果或方程式，您会发现这对于任务 1 特别有用。



点击此按钮打开“公式”选项卡。公式编辑器与 Microsoft Word 类似，顶部栏中列出了要添加的符号和运算符：



If you are familiar with LaTeX, you can instead use the LaTeX Equation editor, or insert them directly into text using the Math Mode operators (**$$**). Anything these symbols surround in text will be interpretted as LaTeX Math Mode expressions. For example, writing:

$y = mx + c$

will, as long as you leave a space before and after the bracing **$$** will resolve as:

$$y = mx + c$$

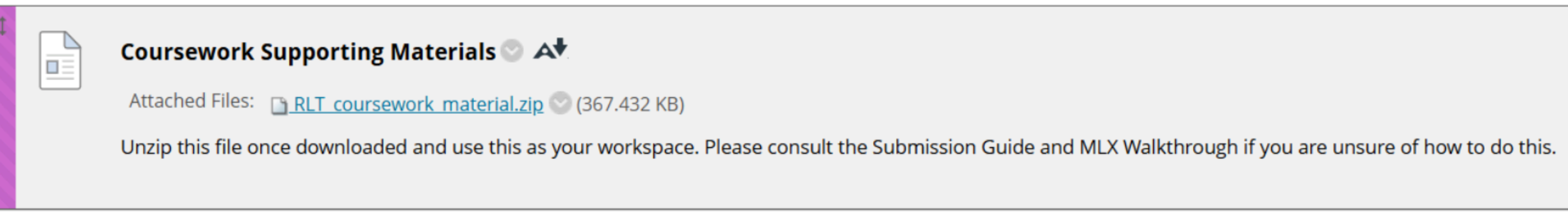
Feel free to change the size of these equations using the regular **Text** options.

Further information on the use of formatted equation in MATLAB can be found at: https://uk.mathworks.com/help/matlab/matlab_prog/insert-equations.html

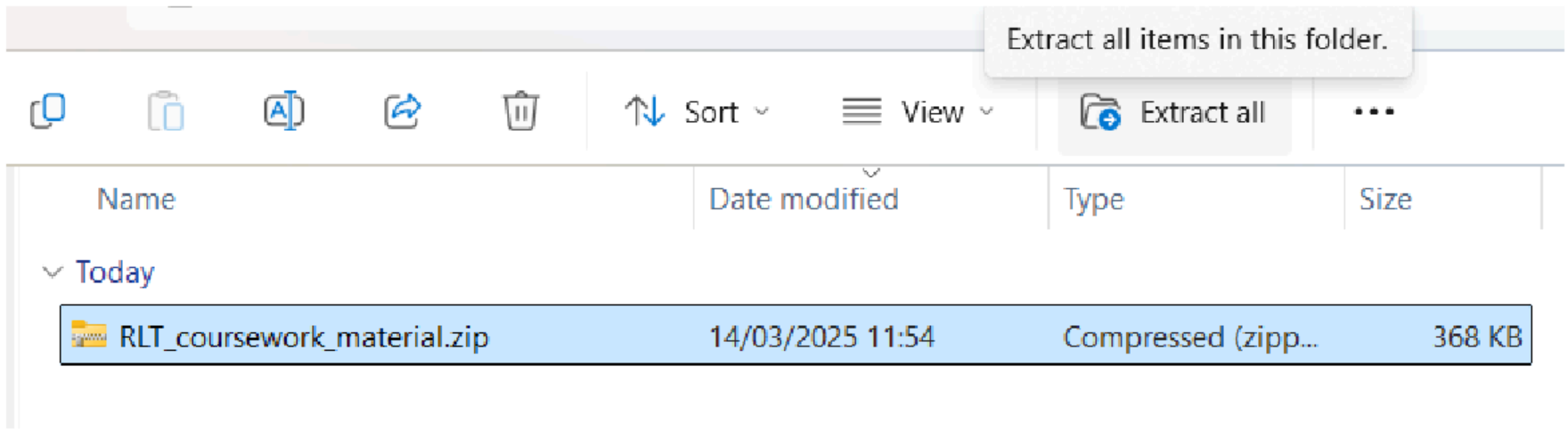
Your Coursework

Your coursework has an accompanying zip file of material. Thise have been made available to you on Blackboard. The easiest way to work on your coursework is to download this folder, unzip it and work within this folder on the relevant MLX. This is done as follows:

Download the material from Blackboard:



Unzip the folder. DO NOT simply use the zip file directly within MATLAB, or you will encounter filepath issues:



Now you can use the contents of the folder normally:

如果您熟悉 LaTeX，可以使用 LaTeX 公式编辑器，或者使用数学模式运算符 ($$) 直接将公式插入文本。文本中任何被这些符号包围的内容都将被解释为 LaTeX 数学模式表达式。例如，输入：

$$y = mx + c$$

只要在括号 $$ 前后留一个空格，就会解析为：

$$ y = mx + c $$

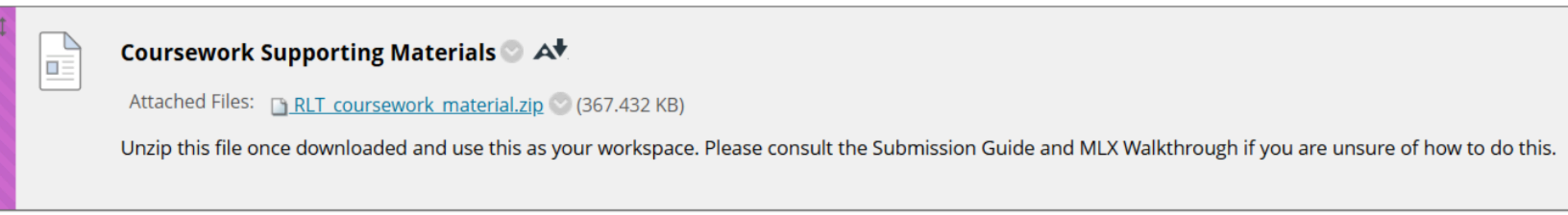
请随意使用常规文本选项来更改这些方程的大小。

有关在 MATLAB 中使用格式化方程的更多信息，请访问：
https://uk.mathworks.com/help/matlab/matlab_prog/insert-equations.html

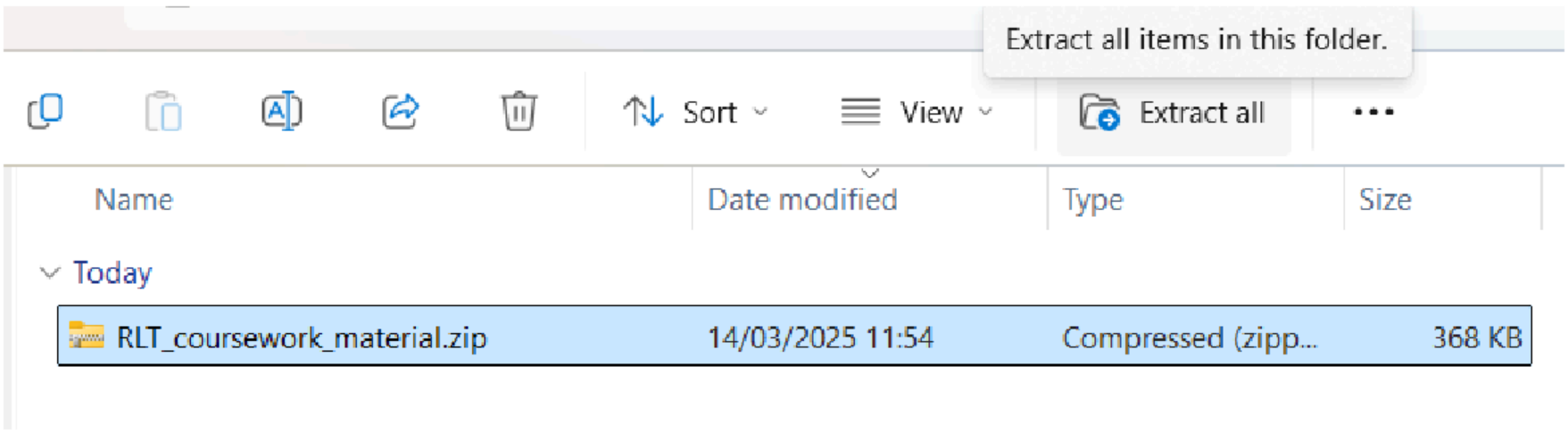
你的课程作业

您的课程作业附带一个包含相关材料的 zip 文件。这些文件已在 Blackboard 上提供给您。完成课程作业最简单的方法是下载此文件夹，解压后在相应的 MLX 上使用该文件夹进行操作。操作方法如下：

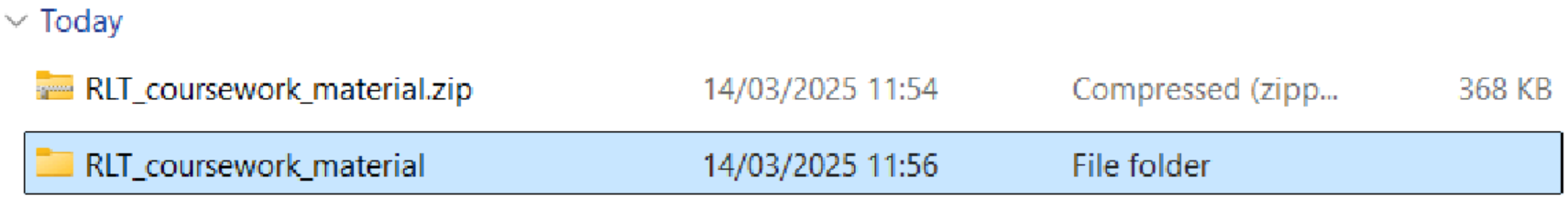
从 Blackboard 下载材料：



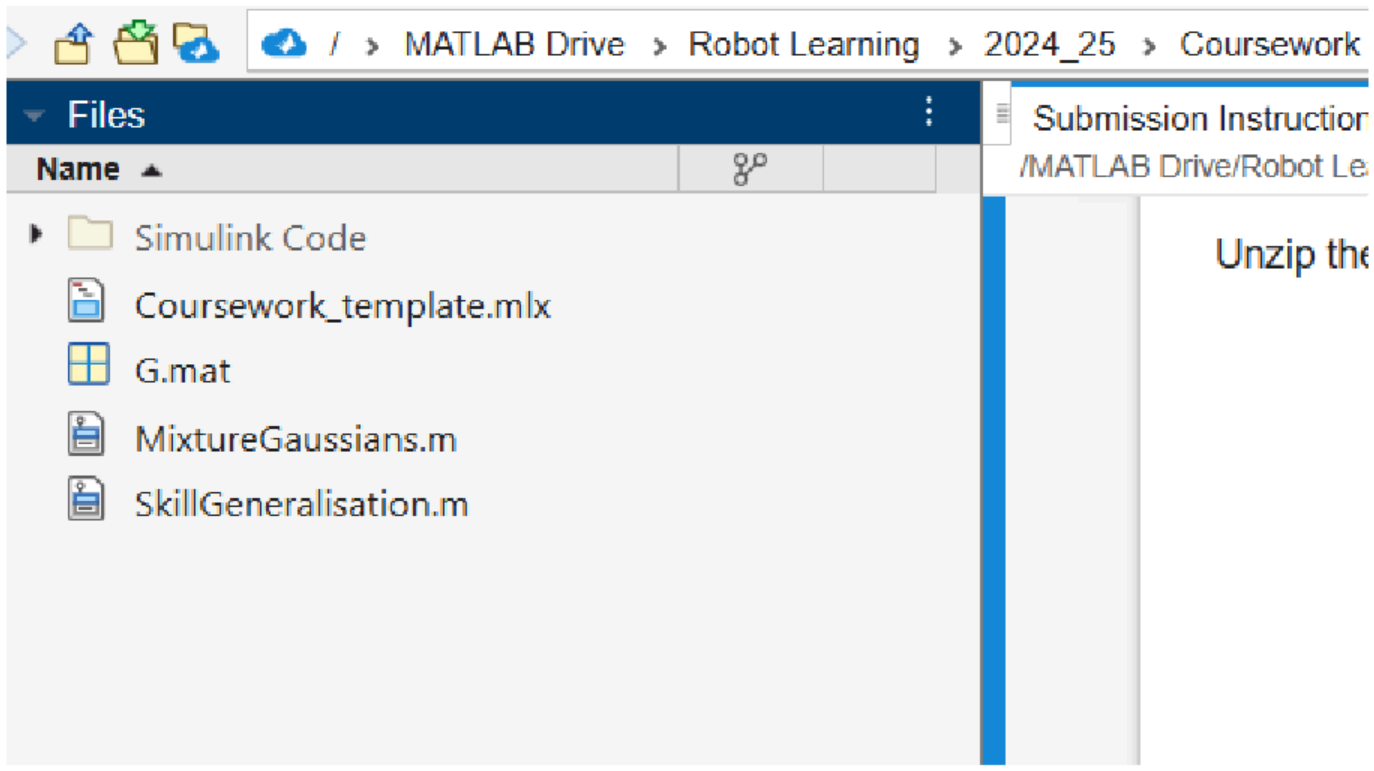
解压文件夹。请勿直接在 MATLAB 中使用 zip 文件，否则会遇到文件路径问题：



现在就可以正常使用文件夹的内容了：



Open this folder within MATLAB and open the MLX within the folder:



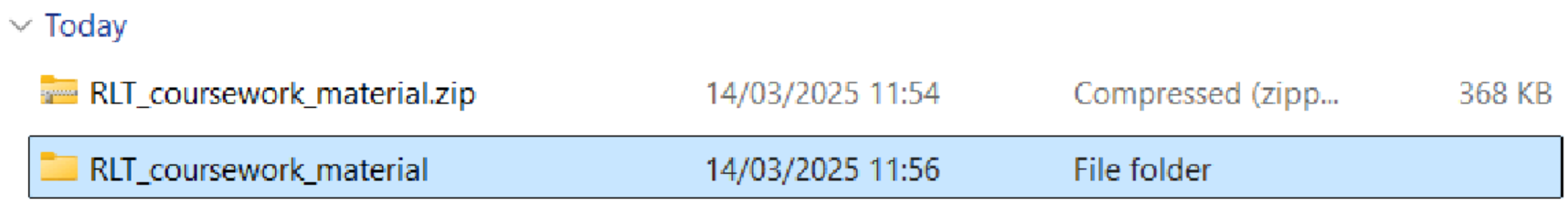
*If working on MATLAB online, you may need to create the Simulink Code folder yourself, before you can import all the content*s. You do not need to copy across the `_MACOSX` folder if working on Windows or Linux; you don't need the `slprj` folder either, as this will be auto-generated the first time you run the `teleoperation.mdl`.

Once your folder structure looks as above, you can work on your assignment with minimal issue.

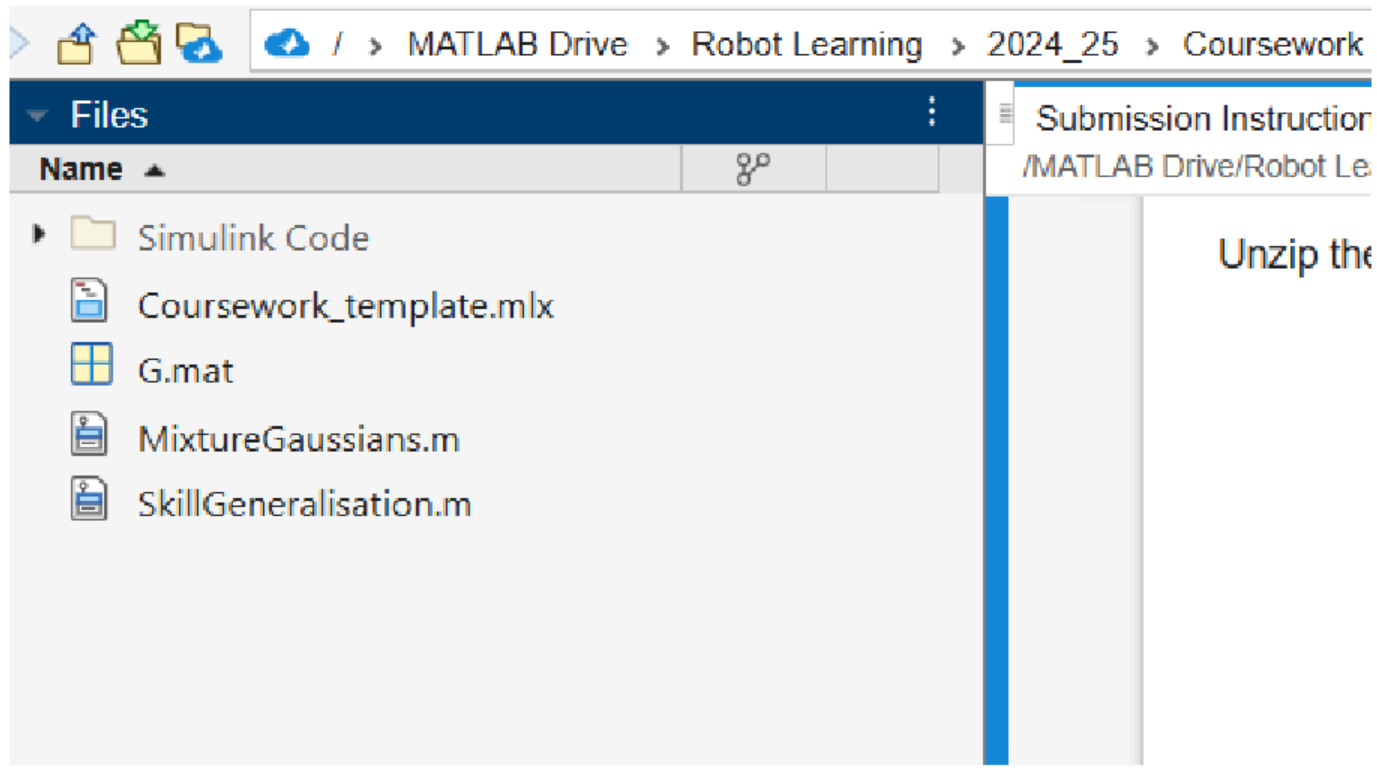
Submitting your Work

For a complete submission, please include your MLX file, accompanying `.m` files and a PDF render of your MLX. This should be done *with outputs*, so you must Run the whole file successfully to display your results and graphs.

To render an MLX file as PDF, use the Export as PDF option under the Save drop-down menu:



在 MATLAB 中打开此文件夹并打开文件夹中的 MLX：



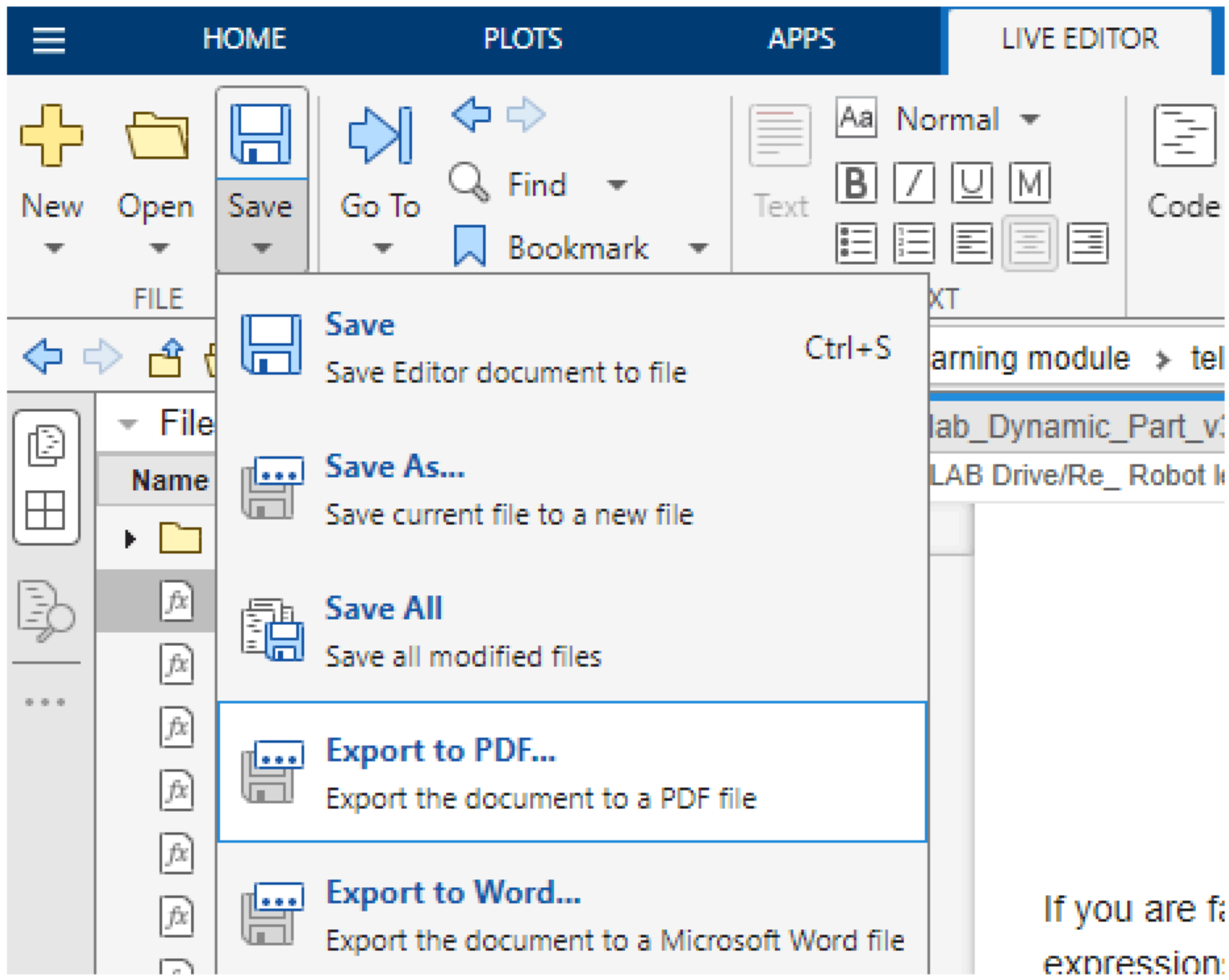
如果在线使用 MATLAB，您可能需要先自行创建 Simulink 代码文件夹，然后才能导入
所有内容。如果在 Windows 或 Linux 上工作，则无需复制 _MACOSX 文件夹；您也不需要 slprj 文件夹，因为它会在您第一次运行 teleoperation.mdl 时自动生成。

一旦你的文件夹结构如上所示，你就可以用最少的问题完成你的任务。

提交你的作品

如需完整提交，请包含您的 MLX 文件、附带的 .m 文件以及 MLX 的 PDF 渲染图。提交过程需包含输出，因此您必须成功运行整个文件才能显示结果和图表。

要将 MLX 文件呈现为 PDF，请使用“保存”下拉菜单下的“导出为 PDF”选项：



If you are proficient with writing MATLAB functions and wish to use them to organise your code, you are welcome to write them outside of the MLX. However, we will only run your MLX file for marking, so please ensure they are called correctly from the MLX. Please submit any additional files like these alongside your MLX, the required .m files, and the PDF.

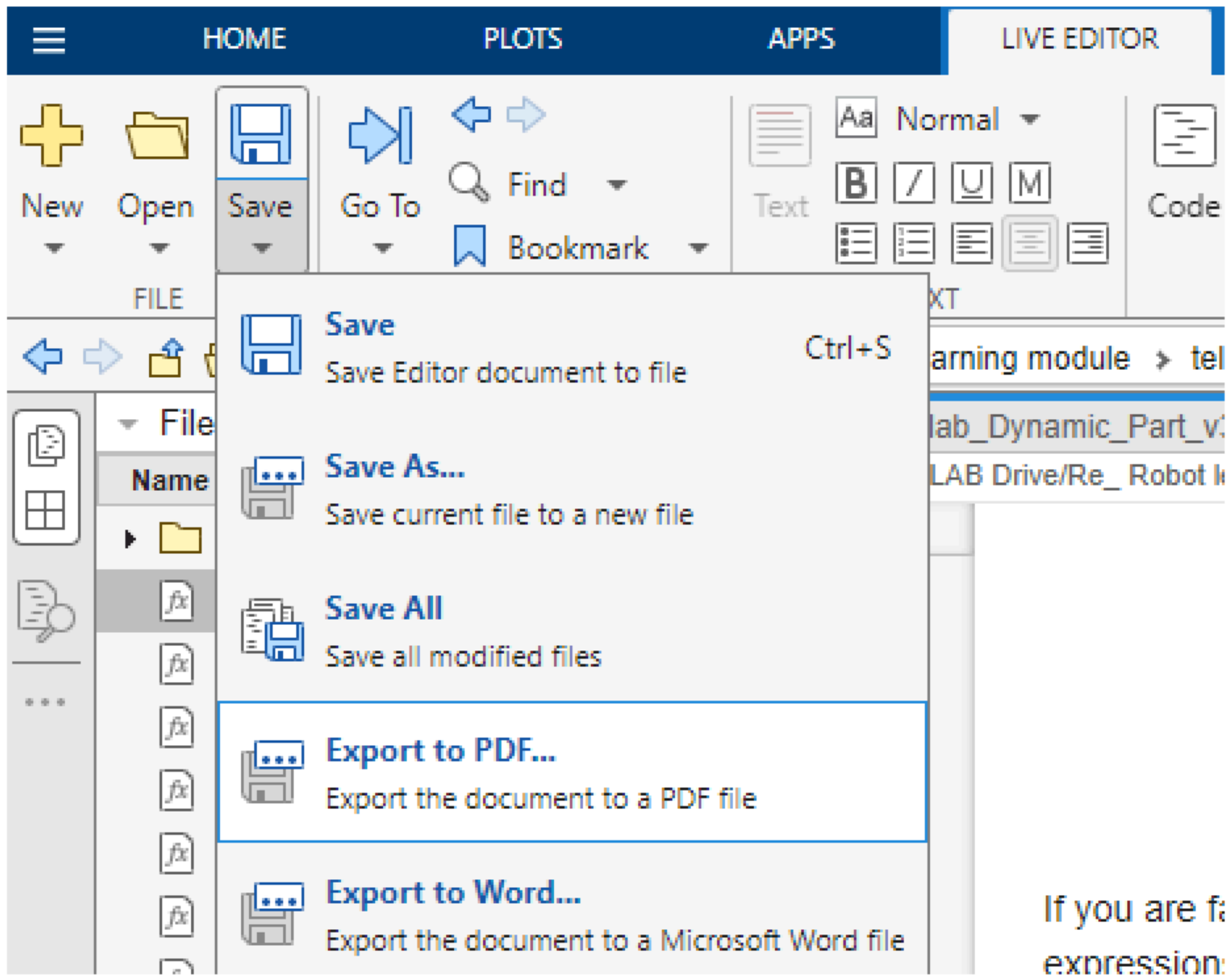
Please also note that very wide images do not render well onto the PDF. Please check to make sure images you insert are captured appropriately within the PDF.

Tasks for Completion

The tasks to complete are detailed in the coursework brief (https://blackboard.uwe.ac.uk/bbcswebdav/pid-11024581-dt-content-rid-53176980_2/xid-53176980_2).

Areas for entering code and text are provided where appropriate. Those seeking high grades should pay special attention to the **Extra Credit** section at the end of each document; be sure to work some of these additions throughout the 4 Tasks where appropriate.

If you wish to navigate quickly between Tasks, please use the Go To feature:



使用“保存”下拉菜单下的“导出为 PDF”选项：如果您精通 MATLAB 函数编写，并希望使用它们来组织代码，欢迎您在 MLX 之外编写它们。但是，我们只会运行您的 MLX 文件进行评分，因此请确保它们在 MLX 中正确调用。请将任何其他类似的文件与您的 MLX 文件、所需的 .m 文件和 PDF 文件一起提交。

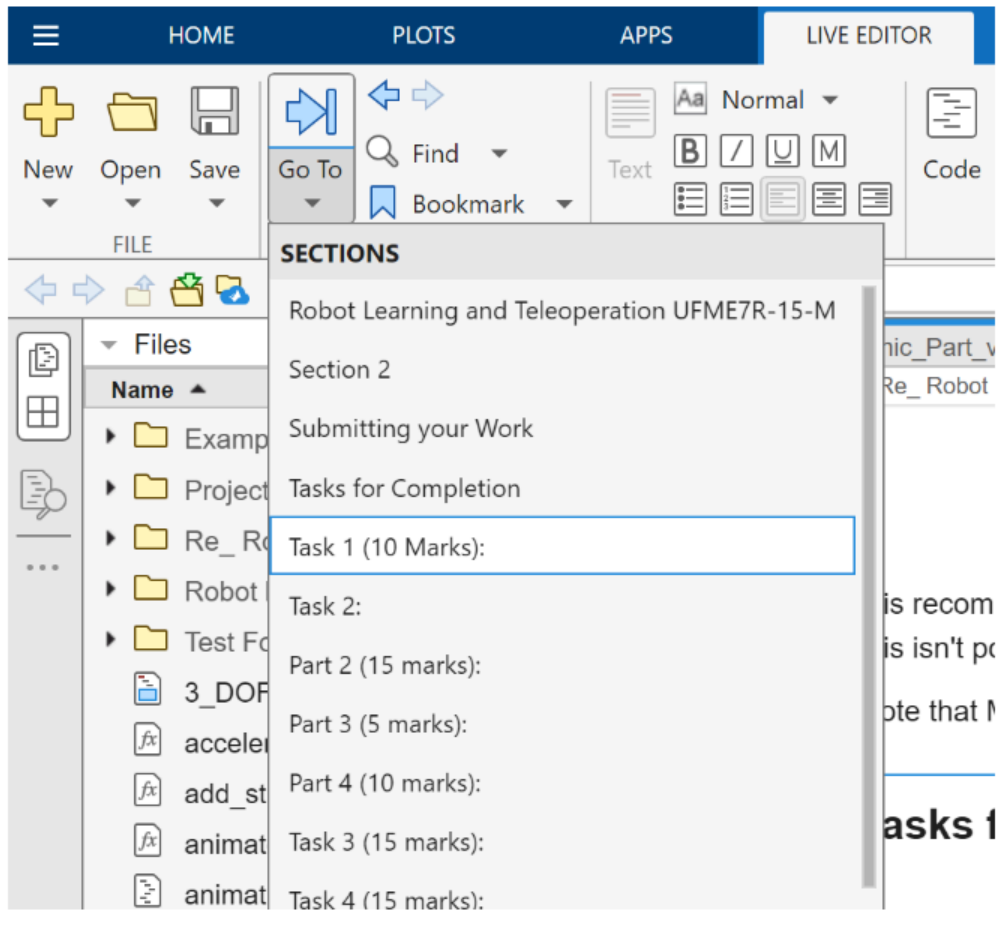
另请注意，过宽的图像在 PDF 上显示效果不佳。请检查插入的图像是否在 PDF 中正确显示。

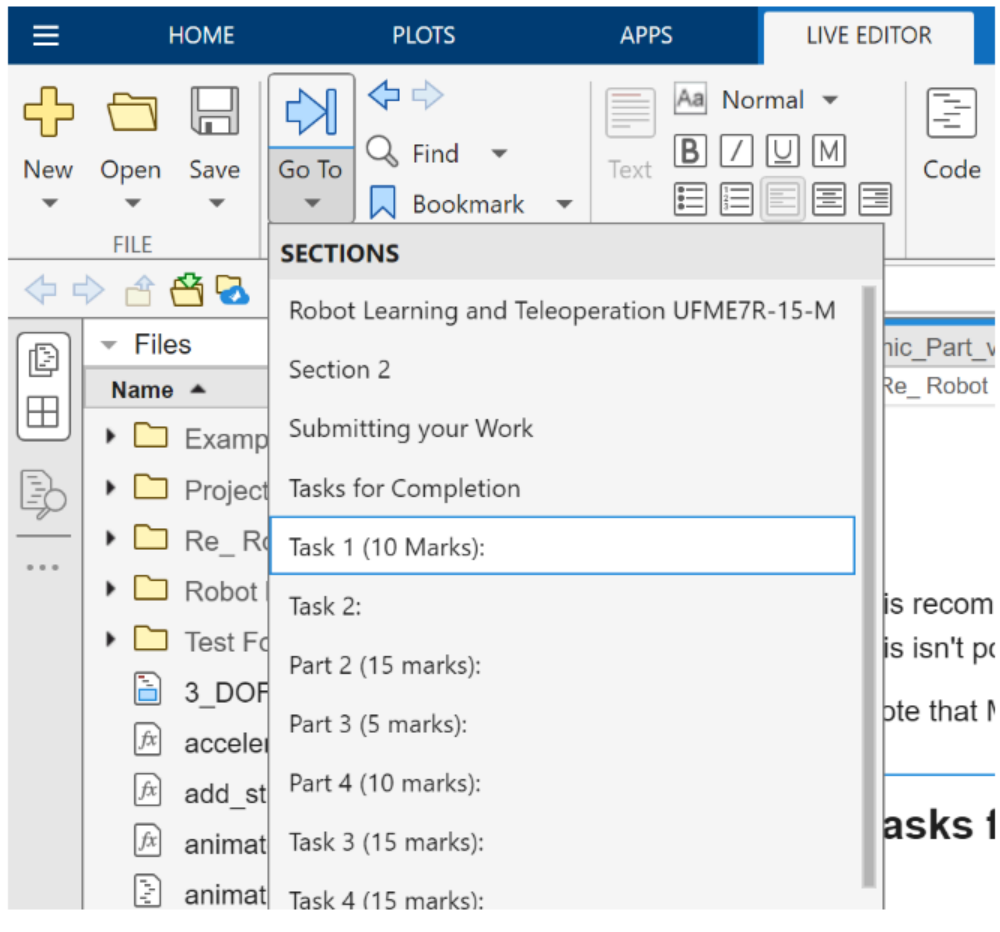
待完成的任务

要完成的任务详细说明在课程简介中（https://blackboard.uwe.ac.uk/bbcswebdav/pid-11024581-dt-content-rid-53176980_2/xid-53176980_2）。

在适当的位置提供了输入代码和文本的区域。想要获得高分的考生应特别注意每篇文档末尾的“额外加分”部分；务必在适当的位置完成 4 项任务中的一些额外加分。

如果您希望在任务之间快速导航，请使用“转到”功能：


HOME
PLOTS
APPS
LIVE EDITOR
New
Open
Save
FILE
Go To
Find
Bookmark
Text
Normal
Code
SECTIONS
Robot Learning and Teleoperation UFME7R-15-M
Section 2
Submitting your Work
Tasks for Completion
Task 1 (10 Marks):
Task 2:
Part 2 (15 marks):
Part 3 (5 marks):
Part 4 (10 marks):
Task 3 (15 marks):
Task 4 (15 marks):
Files
Name


HOME
PLOTS
APPS
LIVE EDITOR
New
Open
Save
FILE
Go To
Find
Bookmark
Text
Normal
Code
SECTIONS
Robot Learning and Teleoperation UFME7R-15-M
Section 2
Submitting your Work
Tasks for Completion
Task 1 (10 Marks):
Task 2:
Part 2 (15 marks):
Part 3 (5 marks):
Part 4 (10 marks):
Task 3 (15 marks):
Task 4 (15 marks):
Files
Name